| Index of Claims |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|
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| Application | n/Control N | lo. |
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10/019,514

Examiner

Reexamination

BELLY ET AL.

Applicant(s)/Patent under

Art Unit

Young J. Kim

1637

Rejected **Allowed** 

(Through numeral) Cancelled

Restricted

Non-Elected N

Interference

**Appeal** o Objected

| Cla             | Claim Date   |               |  |                                    |                 | CI       | aim  | Date     |                                    |          |         |          |              |                     |          | Cla      | aim  | Date  |            |          |   |           |               |          |          |          |           |          |
|-----------------|--------------|---------------|--|------------------------------------|-----------------|----------|--|----------|------------------------------------|----------|---------|----------|--------------|---------------------|----------|----------|------|-------|------------|----------|---|-----------|---------------|----------|----------|----------|-----------|----------|
|                 | <u>=</u> 1   |               |  |                                    |                 |          |  | <u>_</u> |                                    |          |         |          |              |                     |          | 1        |      | _     | ㅁ          |          |   |           |               |          |          |          | ı         |          |
| Final           | Original AS  |               | 11   |                                    |                 |          | Final  | Original | H                                  |          |         |          |              |                     |          |          |      | Final | Original   |          |   |           |               |          | - 1      |          | - 1       | -        |
| ፲፫              | ğ   <u>%</u> |               |  |                                    |                 |          | i <u>ī</u>                                   | ٦        | H                                  |          |         |          |              |                     |          |          |      | Œ     | Öij        |          |   |           |               |          | - 1      |          | 1         |          |
|                 | 0            |               | Ш  |                                    |                 | ٠        |  |          | Ш                                  | _        | _       |          | <u> </u>     | $\Box$              | _        | _        | L    |       |            |          | _   | 4         | $\rightarrow$ | 4        | _        | 4        | _         | _        |
|                 |              | _             | $\sqcup \bot$                                    | $\bot$                             | _               | $\perp$  |  | 51       | $\vdash$                           |          | _       | 4_       | _            | _                   | _        | 4        | -    |       | 101        |          |   | 4         | _             | _        | _        | _        |           | _        |
|                 | 2            |               | - -  | $\downarrow \downarrow \downarrow$ | _               |          |  | 52       | $\sqcup$                           |          |         | 4        |              | Ш                   | _        | _        | -    |       | 102        | $\dashv$ |   | -+        | _             | 4        | _        | 4        | 4         |          |
|                 | 3            |               |  | +                                  | _               | $\perp$  |  | 53       | $\vdash$                           |          | -       | +-       | $\vdash$     | $\dashv$            | $\dashv$ | _        | ŀ    |       | 103        |          | $\perp$   |           |               | $\dashv$ | $\dashv$ | _        | -         | $\dashv$ |
| $\sqcup$        | 4            |               | $\vdash$   | +                                  |                 |          | <u> </u>                                     | 54       | $\vdash$                           |          |         | +        | -            | $\dashv$            | $\dashv$ |          | ŀ    |       | 104        |          | +   | +         | $\dashv$      | $\dashv$ | -        | $\dashv$ | $\dashv$  |          |
|                 | 5            |               | $\vdash$   | +                                  |                 |          |  | 55<br>56 | $\vdash$                           |          |         |          | $\vdash$     | $\dashv$            | -        |          | H    |       | 105<br>106 | ᅱ        |   | +         | $\dashv$      | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  |          |
|                 | 6 N          |               | ┝╾├╴   | +                                  | +               |          |  | 57       | $\vdash$                           | $\dashv$ |         |          | $\vdash$     | $\dashv$            | $\dashv$ | -        | ŀ    |       | 107        | $\dashv$ | $\dashv$  | -         |               |          | $\dashv$ | $\dashv$ | $\dashv$  | $\dashv$ |
| $\vdash$        | 7 N          |               | $\vdash$   | +                                  | $\vdash$        |          | -  | 58       | $\vdash$                           | -        | +       | +        | $\vdash$     | $\vdash$            |          |          | ŀ    |       | 108        | 一        | $\dashv$  | +         | $\dashv$      | ᅱ        | ᅱ        | $\dashv$ | $\dashv$  | $\neg$   |
|                 | 9            |               | ╁┼   | +                                  | $\vdash$        |          |  | 59       | $\vdash$                           | +        |         | +-       | ┢            | $\vdash$            | $\dashv$ | $\dashv$ | ŀ    |       | 109        | $\dashv$ | -   |           | $\dashv$      | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  | $\dashv$ |
|                 | 10 /         |               | $\vdash$   | +                                  | $\vdash$        | -        | -  | 60       | H                                  |          | +       | +        | t            | $\vdash$            | $\dashv$ | -        | ŀ    |       | 110        | $\dashv$ | $\dashv$  | -         | _             | $\dashv$ | $\dashv$ | $\dashv$ | 寸         | $\dashv$ |
|                 | 11           | +             |  | 1-1                                | $\vdash$        | +        |  | 61       | -                                  | $\dashv$ | +       | +        | $\vdash$     | -                   | $\neg$   | $\dashv$ | ŀ    |       | 111        | $\dashv$ | $\top$  | $\forall$ | $\dashv$      | $\dashv$ | 一        | _        | ᅥ         | $\dashv$ |
| 一十              | 12           | $\top$        |  | 1-1                                | $\vdash$        | $\top$   |  | 62       | $\vdash$                           | $\dashv$ | $\top$  | $\top$   | $\vdash$     |                     | $\neg$   | $\dashv$ | l    |       | 112        |          | $\top$  | 7         | 一             | ᅥ        |          | 寸        | $\neg$    | $\dashv$ |
| $\vdash$        | 13           | $\top$        | $\vdash$   | +                                  | +               |          |  | 63       | $\sqcap$                           | $\dashv$ | $\top$  | $\top$   | П            |                     | $\neg$   |          | ı    | -     | 113        | 一        | 1   | 7         |               |          | $\dashv$ | T        | ヿ         | 乛        |
|                 | 14           |               |  | $\top$                             | $\sqcap$        |          |  | 64       | $\sqcap$                           | _        | 1       | T        |              |                     |          |          | Ţ    |       | 114        | 1        |   | _1        |               | ╗        |          |          | ╛         |          |
|                 | 15           | $\neg \vdash$ | - -  |                                    |                 |          |  | 65       |                                    |          |         | I        |              |                     |          |          | Ī    |       | 115        |          |   |           |               |          |          |          |           |          |
|                 | 16           |               |  |                                    |                 |          |  | 66       |                                    |          |         |          |              |                     |          |          |      |       | 116        |          |   |           |               |          |          |          |           |          |
|                 | 17           |               |  |                                    |                 |          |  | 67       |                                    |          |         |          |              |                     |          |          |      |       | 117        |          |   |           |               |          |          |          |           |          |
|                 | 18           |               |  |                                    |                 |          |  | 68       |                                    |          |         |          |              |                     |          |          |      |       | 118        |          |   | $\perp$   |               |          |          |          |           |          |
|                 | 19           |               |  |                                    |                 |          |  | 69       |                                    |          |         |          | L            |                     |          | _        |      |       | 119        | _        | _ .   | _         | _             | _        | _        | _        | _         |          |
|                 | 20           | $\perp$       |  |                                    | Ш               |          |  | 70       |                                    | $\perp$  | $\perp$ | $\perp$  |              |                     |          |          | ļ    |       | 120        |          |   | _         | _             | _        |          | _        |           |          |
|                 | 21           |               |  | $\perp$                            |                 | $\perp$  |  | 71       | $\sqcup$                           | _        | $\perp$ | $\bot$   |              |                     | _        |          | ļ    |       | 121        | _        |   | _         | _             | _        |          | _        | $\dashv$  | $\dashv$ |
|                 | 22 N         |               | $\sqcup$   | $\bot$                             | $\Box$          |          | ļ  | 72       | $\square$                          |          | 4       | <u> </u> |              |                     |          | _        | - }- |       | 122        |          | $\dashv$  | 4         | 4             | $\dashv$ | _        | -        | $\dashv$  |          |
| <b> </b>        | 23           |               | $\sqcup \bot$                                    | $\bot$                             | $\Box$          |          |  | 73       |                                    |          |         |          | <u> </u>     |                     | $\perp$  | _        | ŀ    |       | 123        | _        | _   | $\dashv$  | $\dashv$      | _        | _        |          | -         | _        |
|                 | 24           | _             |  | 1-1                                | -               |          |  | 74       | $\vdash$                           | ᅪ        |         |          | ╀            | $\dashv$            | _        | _        | ŀ    |       | 124        |          |   | +         | -1            | -        | $\dashv$ |          |           | _        |
| $\vdash$        | 25           |               |  | +                                  | $\vdash$        |          |  | 75       | ┨                                  |          | +       | +-       | -            | $\vdash$            | $\dashv$ | -        | -    |       | 125<br>126 | -        |   | -         | $\dashv$      | -        | -        | $\dashv$ | -         | $\dashv$ |
| <del></del>     | 26<br>27     |               | $\vdash$   | +                                  | $\vdash$        |          | <u> </u>                                     | 76<br>77 | $\vdash$                           | -        | +       |          |              |                     | $\dashv$ | ᅱ        | ŀ    |       | 127        |          |   | +         | $\dashv$      | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  | -        |
| -               | 28           |               | <del></del>                                      | + 1                                | $\vdash$        | +        |  | 78       | H                                  | +        | +       | +        | -            | $\vdash$            | -        | -        | ŀ    | -     | 128        |          |   | +         | $\dashv$      | $\dashv$ |          | $\dashv$ | -         | $\dashv$ |
|                 | 29           |               | $\vdash$   | +                                  | +               |          |  | 79       | $\Box$                             | $\dashv$ | +       |          | -            |                     |          | -        | ŀ    |       | 129        | -        |   | $\dashv$  | $\dashv$      | $\dashv$ |          | $\dashv$ | ᅱ         | -        |
| $\vdash$        | 30           | +             | <del>                                     </del> | +-1                                | $\dashv$        | +        |  | 80       | $\vdash$                           | $\dashv$ | ╅       | +        | $\vdash$     | Н                   |          | $\dashv$ | ŀ    |       | 130        | -        | $\dashv$  | +         | $\dashv$      | $\dashv$ |          | $\dashv$ | $\dashv$  | $\dashv$ |
| $\vdash$        | 31           | -             | $\vdash$   |                                    |                 |          |  | 81       | $\vdash$                           | $\dashv$ | +       |          | 1            | $\vdash$            | $\dashv$ | $\dashv$ | ŀ    |       | 131        |          |   | $\dashv$  | _             | $\dashv$ |          | 寸        | $\neg$    | $\neg$   |
|                 | 32           | 1             |  | 1                                  |                 |          |  | 82       |                                    | $\neg$   | _       | $\top$   | $\vdash$     |                     |          | $\neg$   | ı    |       | 132        |          | 7   | $\dashv$  |               | _        |          | 寸        | コ         |          |
|                 | 33           | $\neg$        |  | 11                                 | $\Box$          | _        |  | 83       |                                    | $\top$   | $\neg$  | 1        |              |                     |          |          | j    |       | 133        | $\neg$   | $\neg$  | $\dashv$  | $\neg$        | $\neg$   |          |          | $\exists$ |          |
|                 | 34           | $\neg$        | $\Box$   | $\top$                             |                 |          |  | 84       |                                    | _1       |         |          |              |                     |          |          | Ī    |       | 134        |          |   |           |               |          |          |          |           |          |
|                 | 35           |               |  |                                    |                 |          |  | 85       |                                    |          | $\Box$  |          |              |                     |          |          |      |       | 135        |          | $oldsymbol{ol}}}}}}}}}}}}}}}$ | Ι         |               |          |          |          |           |          |
|                 | 36           |               |  |                                    |                 |          |  | 86       |                                    |          |         |          |              |                     |          |          | [    |       | 136        |          | $\Box$  | $\Box$    |               |          |          |          | $\Box$    |          |
|                 | 37           |               |  |                                    |                 |          |  | 87       | П                                  |          |         | $\bot$   |              | Ш                   | $\Box$   | $\Box$   |      |       | 137        |          |   | $\Box$    | _[            |          |          | $\Box$   |           | _        |
|                 | 38           |               |  | ot                                 | Ш               |          |  | 88       | $\sqcup$                           | _ _      |         | _        |              | Щ                   |          |          |      |       | 138        |          | _   | 4         |               |          |          |          | _         | ╝        |
|                 | 39           |               |  | $\perp \perp$                      | Ш               |          |  | 89       | $\sqcup$                           | _ _      | 4       | _        | Ш            | Щ                   |          | _        | -    |       | 139        | _        | _   | $\perp$   | _             | _        | _        | _        | _         |          |
| $\sqcup \sqcup$ | 40           | _             | $\vdash \vdash$                                  | 4-4                                | $\perp$         | $\perp$  | l  | 90       | $\downarrow \downarrow$            | _        | _       | 4        | <u> </u>     | $\sqcup$            | $\dashv$ | $\dashv$ | ļ    |       | 140        | _        | $\dashv$  | 4         |               | _        | _        | _        | _         |          |
| $\sqcup$        | 41           | 4-            | $\sqcup \!\!\!\! \perp$                          | $\perp \! \! \perp$                | Щ.              |          | <b> </b>                                     | 91       | $\downarrow \downarrow \downarrow$ |          | $\bot$  |          | L            | $\sqcup$            | $\dashv$ | $\dashv$ | -    |       | 141        |          | $\dashv$  | $\dashv$  |               |          | _        | -        | $\dashv$  | _        |
|                 | 42           |               | $\vdash \vdash$                                  | -                                  | -               |          | l  | 92       | 1                                  | -        |         |          | ├-           | $\vdash \vdash$     |          |          | -    |       | 142        | $\dashv$ | +   | -         | $\dashv$      |          | $\dashv$ | $\dashv$ | $\dashv$  | _        |
| $\vdash \vdash$ | 43           | -             | <del>                                     </del> |                                    |                 |          | <b> </b>                                     | 93       |                                    | $\dashv$ | +       | +-       | <del> </del> | $\vdash \vdash$     | _        | $\dashv$ | }    |       | 143        | -        | +   | +         |               |          |          | $\dashv$ | $\dashv$  | $\dashv$ |
| $\vdash \vdash$ | 44           | +             |  |                                    | $\vdash$        |          | <b> </b>                                     | 94       | +                                  | $\dashv$ | +       | +-       | ├-           | $\vdash \downarrow$ | $\dashv$ | $\dashv$ | ŀ    |       | 144        | _        | +   | +         | -             |          | -        |          | $\dashv$  | _        |
| <b>  </b>       | 45           |               | -  | +                                  | $\vdash$        | -        |  | 95       | ╁┤                                 | _        | +       | +        | $\vdash$     | $\vdash \vdash$     | $\dashv$ | $\dashv$ | }    |       | 145<br>146 | $\dashv$ | $\dashv$  | +         |               | -        | $\dashv$ | $\dashv$ | -         | _        |
|                 | 46<br>47     |               | $\vdash$   | +                                  | $\vdash$        |          | -  | 96<br>97 | $\vdash$                           |          | +       | ╁        | -            | $\vdash$            |          | $\dashv$ | -    |       | 147        | $\dashv$ | $\dashv$  | +         | $\dashv$      |          | $\dashv$ | $\dashv$ | -         |          |
| $\vdash$        | 48           | +             | $\vdash$   | +                                  | $\vdash \vdash$ | -        |  | 98       | ╂═┤                                | $\dashv$ | +       | +        | $\vdash$     | ├┤                  | $\dashv$ | $\dashv$ | ŀ    |       | 148        | $\dashv$ | $\dashv$  | $\dashv$  | -             | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  | $\dashv$ |
| <del></del>     | 49           | +             | <del> -  -</del>                                 | ┽╾┤                                | $\vdash$        | +        |  | 99       | +                                  | $\dashv$ | +       | +        | $\vdash$     | $\vdash \vdash$     | $\dashv$ | $\dashv$ | ŀ    |       | 149        |          | +   | $\dashv$  | ┪             |          |          | -+       | $\dashv$  | $\dashv$ |
| $\vdash$        | 50           | +             | -  | +                                  | $\vdash$        | $\dashv$ | <b>│                                    </b> | 100      | +                                  | $\dashv$ | +       | +        |              | H                   | _        | $\dashv$ | ŀ    |       | 150        | $\neg$   | $\dashv$  | +         | $\dashv$      | $\dashv$ | $\vdash$ | _        | $\dashv$  | $\dashv$ |
|                 | 30 J         | 1             | Ll   |                                    | $\perp \perp$   |          | ·  | LIVU     |                                    |          |         |          | Ĺ            | ш                   | $\perp$  |          | L    |       | -50        | ليــــــ |   |           |               |          |          |          |           |          |